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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/615,167	07/07/2003	Ching-Mao Yeh	US5670	8611
54000 7590 12/22/2006 PCE INDUSTRY, INC. ATT. CHENG-JU CHIANG JEFFREY T. KNAPP 458 E. LAMBERT ROAD FULLERTON, CA 92835			EXAMINER MOORE, TERENCE J	
			ART UNIT 2112	PAPER NUMBER

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	12/22/2006	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No. 10/615,167	Applicant(s) YEH ET AL.	
	Examiner Terence Moore	Art Unit 2112	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07/07/2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>07/07/2003</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

2. The information disclosure statement submitted on July 7, 2003 has been considered by the Examiner and made of record in the application file.

Specification

3. The abstract of the disclosure is objected to because VoIP (Voice over Internet Protocol) is not spelled out when it first appears as an acronym.

Correction is required. See MPEP § 608.01(b).

4. The disclosure is objected to because of the following informalities:
 - a. On page 1, line 8, all words should be capitalized when spelling out "Plain Old Telephone Service".
 - b. On page 1, lines 9 and 16, all words should be capitalized when spelling out "Public Switched Telephone Network".

Appropriate correction is required.

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Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. **Claims 1, 2 and 5** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Jones et al. (U.S. Patent No. 6,404,764 B1)** in view of **Wu et al. (U.S. Patent No. 7,123,606 B2)**.

Consider **claim 1**, Jones et al. clearly disclose a voice-over-Internet protocol (VoIP) device (**figures 2 and 3**, and **column 2, lines 11-41** show and describe a network premises gateway **10**) comprising:

(a) a subscriber line interface circuit serving as an interface for communications with a telephone (**figure 5** shows a block diagram of a telephony subsystem **34** which is part of the network premises gateway **10**; **figure 5** and **column 4, lines 4-22** show and describe a plain old telephone service (POTS) interface **40** which serves as the initial interface within the telephony subsystem **34** for an in-premises POTS network **20**).

(b) a processor coupled to the subscriber line interface circuit to determine whether a transmission from the telephone through the subscriber line interface circuit is a PSTN phone number or a VoIP phone number, wherein when the transmission is a VoIP phone number, the processor routes the transmission to the VoIP network, and when the transmission is a PSTN phone number, the processor instructs the subscriber line interface circuit to generate a dual-tone multi-frequency redial number (**figure 5**, and **column 9, lines 27-65** show and describe a dual tone multi-frequency (DTMF) detection and call progress generator **52** (within the telephony manager **38**, which is part of the telephony subsystem **34** portion of the network premises gateway **10**) receiving a sequence of DTMF signals and causing the network premises gateway **10** to behave in

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different ways depending on what signals were detected – either entering a VoIP mode and placing the call via the internet if a particular sequence of predetermined signals is detected, or entering a POTS mode and transmitting the sequence of signals to the PSTN if a particular predetermined sequence of signals is not received); and

(c) a dual-tone multi-frequency coupling circuit coupled between the subscriber line interface circuit and the public switched telephone network for receiving the dual-tone multi-frequency redial number from the subscriber line interface circuit when the transmission is determined as a PSTN phone number, and routing the dual-tone multi-frequency redial number to the public switched telephone network (**figure 5**, and **column 4, lines 23-31** show and describe a telephony crossbar **42** which couples the telephony manager **38** and the POTS interface **40** to each other and routes those telephony calls to be routed to the PSTN by sending the digitally encoded audio signals to the POTS interface **40**. The telephony crossbar **42**, telephony manager **38**, and the POTS interface **40** are all part of the telephony subsystem **34** portion of the network premises gateway **10**).

However, Jones et al. do not specifically disclose a relay selectively coupled to a public switched telephone network (PSTN) or coupled to a VoIP network through the subscriber line interface circuit.

In the same field of endeavor, Wu et al. disclose a line transfer switch (which reads on the relay) connected to the VoIP network which can be ordered to auto-switch to a mode which connects to the PSTN when the VoIP network is

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not able to communicate to the outside world due to loss of external power

(column 1 line 54 – column 2 line 5).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate a line transfer switch (or relay) as shown by Wu et al. in the network premises gateway taught by Jones et al. for the purpose of system longevity (especially in the case of emergencies), by making it possible to switch over to the battery-powered PSTN to keep communication possible in the event the VoIP network loses power.

Consider **claim 2**, and **as applied to claim 1 above**, Jones et al., as modified by Wu et al., also disclose a dual-tone multi-frequency coupling circuit comprising of: (a) a switching element having a first terminal and a second terminal and controlled by the processor, wherein the switching element is turned on by the processor when the transmission is determined as a PSTN phone number; (b) a first coupling device coupled between the subscriber line interface circuit and the first terminal of the switching element for receiving the dual-tone multi-frequency redial number from the subscriber line interface circuit; and (c) a second coupling device coupled between the second terminal of the switching element and the public switched telephone network for routing the dual-tone multi-frequency redial number to the public switched telephone network when the switching element is turned on (as described above, **figure 5**, and **column 4, lines 23-31** show and describe a telephony crossbar **42** which couples the telephony manager **38** and the POTS interface **40** to each other and routes those telephony calls to be routed to the PSTN by sending the digitally encoded audio

signals to the POTS interface **40**. The telephony crossbar **42** reads on the switching element, the telephony manager **38** (when it determines through the DTMF detection and call progress generator **52** that the call is a PSTN call) reads on the first coupling device, and the POTS interface **40** (when used to transmit outgoing calls) reads on the second coupling device).

Consider **claim 5**, and **as applied to claim 2 above**, Jones et al., as modified by Wu et al., disclose the claimed invention except for where the switching element is a transistor.

Nonetheless, the Examiner takes Official Notice of the fact that it is notoriously well known in the art the use of a transistor as an electronic switch.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to use a transistor, as well known in the art, in the DTMF detection circuit taught by Jones et al. and Wu et al. for the purpose of an electronic switch to either (1) allow the transmission of DTMF digits to the PSTN network if the digits represent a PSTN number or (2) not allow the transmission of DTMF digits to the PSTN network if the digits do not represent a PSTN number.

7. **Claims 3 and 4** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Jones et al. (U.S. Patent No. 6,404,764 B1)** in view of **Wu et al. (U.S. Patent No. 7,123,606 B2)**, as applied to **claim 2 above**, and further in view of **Schornack et al. (U.S. Patent No. 7,089,034 B1)**.

Consider **claim 3**, and **as applied to claim 2 above**, Jones et al., as

modified by Wu et al., disclose the claimed invention except where the first coupling device is a capacitor.

In the same field of endeavor, Schornack et al. clearly shows and discloses a DTMF detection circuit with various components (**figure 6E** and **column 13, lines 16-31** shows and describes these components); the components include a capacitor **22** on the same side of the transformer **23** as that shown in **figure 2** of the current application.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate a capacitor as shown by Schornack et al. in the DTMF detection circuit taught by Jones et al. and Wu et al. for the purpose of blocking any DC voltages from traveling any further in the circuit (e.g., to a transformer).

Consider **claim 4**, and **as applied to claim 2 above**, Jones et al., as modified by Wu et al., disclose the claimed invention except where the second coupling device is a transformer.

In the same field of endeavor, Schornack et al. clearly shows and discloses a DTMF detection circuit with various components (**figure 6E** and **column 13, lines 16-31** shows and describes these components); the components include a transformer **23** that transforms DTMF energy, similar to the transformer shown in the **figure 2** of the current application.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate a transformer as shown by Schornack et al. in the DTMF detection circuit taught by Jones et al. and Wu et

al. for the purpose of electrically isolating the DTMF detection circuit from the POTS interface.

8. **Claim 6** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Jones et al. (U.S. Patent No. 6,404,764 B1)** in view of **Wu et al. (U.S. Patent No. 7,123,606 B2)**, as applied to claim 1 above, and further in view of **Dunlap (U.S. Patent Application Publication No. US 2002/0114439 A1)**.

Consider **claim 6**, and as applied to claim 1 above, Jones et al., as modified by Wu et al., disclose the claimed invention except for a data access arrangement for detecting the status of the public switched telephone network and instructing the relay to allow the dual-tone multi-frequency coupling circuit to transmit the dual-tone multi-frequency redial number to the public switched telephone network when the public switched telephone network is not busy.

In the same field of endeavor, Dunlap discloses a microprocessor that is used together with a data access arrangement (DAA) to determine that (1) the POTS phone is off-hook and (2) no incoming call is presently occurring – before sending a dial tone to the user, and allowing the user to input DTMF digits from the POTS phone for subsequent processing and routing to the PSTN interface (**paragraph 0038**).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate a microprocessor/DAA arrangement as shown by Dunlap in the VoIP device taught by Jones et al. and Wu et al. for the purpose of being able to verify the availability of the PSTN

interface verification prior to allowing the transmission of dialed digits onto that interface.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to Applicant's disclosure.

A. Huang et al. U.S. Patent 7,082,123 discloses a silent redial system for a VoIP modem that utilizes a DTMF redial coupling circuit.

B. Huang et al. U.S. Patent 6,914,978 teaches a pulse dialing system for a VoIP modem.

C. Soshea et al. U.S. Patent 5,563,938 discloses a subscriber telephone diverter switch in which PSTN calls are routed differently depending on the dialed digits.

D. Kwon U. S. Patent Application Publication US 2003/0053446 discloses a public telecommunication terminal used for both PSTN and VoIP telephony and a method for controlling thereof.

E. Byers U. S. Patent 6,614,786 discloses an enhanced dual mode telephone for Internet telephony.

F. Chang U. S. Patent 6,700,956 discloses an apparatus for selectively connecting a telephone to either a telephone network or the Internet and its methods of use.

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10. Any response to this Office Action should be **faxed to (571) 273-8300 or mailed to:**

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P.O. Box 1450
Alexandria, VA 22313-1450

Hand-delivered responses should be brought to

Customer Service Window
Randolph Building
401 Dulany Street
Alexandria, VA 22314

11. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Terence Moore whose telephone number is (571) 270-1775. The Examiner can normally be reached on Monday-Friday from 7:30am to 5:00 pm (alternate Fridays off).

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Rafael Pérez-Gutiérrez can be reached on (571) 272-7915. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair->


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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist/customer service whose telephone number is (571) 272-2600.

Terence Moore
T.M./tm

December 18, 2006


RAFAEL PEREZ-GUTIERREZ
SUPERVISORY PATENT EXAMINER
12/19/06